

What is claimed is:

1. A system for supporting tissue within a hollow body organ comprising

5 a first implant sized and configured to penetrate a first region of tissue in the hollow body organ,

a second implant sized and configured to penetrate a second region of tissue in the hollow body organ spatially distinct from the first region, and

10 at least one tension element to apply tension on the first and second implants and thereby draw tissue inward, thereby defining a reduced interior volume within the hollow body organ.

2. A system according to claim 1  
15 wherein the tension element folds tissue between the first and second implants.

3. A system according to claim 2  
further including a patch element fastened to tissue and overlaying the fold between the first and  
20 second implants.

4. A system according to claim 1  
wherein the first and second implants are part of an array of implants that penetrates spatially distinct regions of tissue in the hollow body organ, and  
25 wherein the tension element applies tension on the array of implants and thereby draw tissue inward.

5. A system according to claim 1  
wherein at least one of the implants comprises a helical fastener.

30 6. A system according to claim 1 wherein the tension element includes first and second tether elements joined, respectively, to the first and second implants, and

at least one clip element gathering the first  
35 and second tether elements together in a taut condition.

7. A method of supporting tissue in a hollow body organ comprising the step of using a system as defined in claim 1.

8. A method of supporting tissue in a heart chamber comprising the step of using a system as defined in claim 1.

9. A method of supporting tissue in or near a heart valve annulus comprising the step of using a system as defined in claim 1.

10. A system for forming a tissue fold within a hollow body organ comprising

a first implant sized and configured to penetrate a first region of tissue in the hollow body organ,

a second implant sized and configured to penetrate a second region of tissue in the hollow body organ spatially distinct from the first region,

at least one tension element extending between the first and second implants to apply tension on the first and second implants and thereby create a tissue fold between the first and second implants.

11. A system according to claim 10

further including a patch element fastened to tissue and overlaying the tissue fold.

12. A system according to claim 10

wherein the first and second implants are part of an array of implants that penetrates spatially distinct regions of tissue in the hollow body organ, and

wherein the tension element extends among the array of implants to apply tension between adjacent implants and thereby create a pattern of tissue folds.

13. A system according to claim 12

further including a patch element fastened to tissue and overlaying the pattern of tissue folds.

14. A system according to claim 10

wherein at least one of the implants comprises a helical fastener.

15           15. A system according to claim 10  
              wherein the tension element includes a tether  
5    element extending between the first and second implants  
      in a taut condition.

              16. A method of folding tissue in a hollow  
body organ comprising the step of using a system as  
defined in claim 10.

10           17. A method of folding tissue in a heart  
chamber comprising the step of using a system as defined  
in claim 10.

              18. A method of folding tissue to close an  
atrial appendage comprising the step of using a system as  
15   defined in claim 10.

              19. A method of folding tissue to close a  
perforation, hold, or defect comprising the step of using  
a system as defined in claim 10.

20           20. A system for supporting tissue in a  
hollow body organ comprising  
              a prosthesis sized and configured for  
placement within an interior of the hollow body organ to  
regulate a size and/or shape of the hollow body organ,  
and

25           at least one fastener securing the prosthesis  
to tissue in the hollow body organ.

              21. A system according to claim 20  
              wherein the fastener comprises a helical  
fastener.

30           22. A system according to claim 20  
              wherein the prosthesis comprises an array of  
prosthetic patches.

              23. A system according to claim 20  
              wherein the prosthesis includes a formed body.

35           24. A system according to claim 20

wherein the prosthesis includes an assembly of prosthesis sections.

25. A method of supporting tissue in a hollow body organ comprising the step of using a system as  
5 defined in claim 20.

26. A method of supporting tissue in a heart chamber comprising the step of using a system as defined in claim 20.

27. A method of supporting tissue in or near  
10 a heart valve annulus comprising the step of using a system as defined in claim 20.

28. A system for supporting tissue around a hollow body organ comprising  
a prosthesis sized and configured for  
15 placement on an exterior of the hollow body organ to regulate a size and/or shape of the hollow body organ, and

at least one fastener securing the prosthesis to tissue on the hollow body organ.

20 29. A system according to claim 28 wherein the fastener comprises a helical fastener.

30. A system according to claim 28 wherein the prosthesis comprises an array of  
25 prosthetic patches.

31. A system according to claim 28 wherein the prosthesis includes a formed body.

32. A system according to claim 28 wherein the prosthesis includes an assembly of  
30 prosthesis sections.

33. A method of supporting tissue around a hollow body organ comprising the step of using a system as defined in claim 28.

34. A method of supporting tissue around a  
35 heart chamber comprising the step of using a system as

defined in claim 28.

35. A system for supporting tissue within a hollow body organ comprising

an elongated implant sized and configured to  
5 penetrate tissue and extend along a curvilinear path within or partially within a tissue wall to regulate a size and/or shape of the hollow body organ.

36. A system according to claim 35

wherein the elongated implant comprises a  
10 helical shape.

37. A method of supporting tissue in a hollow body organ comprising the step of using a system as defined in claim 35.

38. A method of supporting tissue in a heart  
15 chamber comprising the step of using a system as defined in claim 35.

39. A system for reducing volume within a hollow body organ comprising

a prosthesis sized and configured for  
20 placement within the hollow body organ, the prosthesis including an expandable segment to regulate a size and/or shape of the hollow body organ, and

at least one fastener securing the prosthesis to tissue in the hollow body organ.

25 40. A system according to claim 39

wherein the expandable segment is sized and configured to expand in response to receipt of fluid.

41. A method of reducing volume within a hollow body organ comprising the step of using a system  
30 as defined in claim 39.

42. A method of reducing volume within a heart chamber comprising the step of using a system as defined in claim 39.

43. A prosthesis for reducing volume within a  
35 hollow body organ comprising

a prosthesis body sized and configured for placement within the hollow body organ, the prosthesis body including an expandable segment to regulate a size and/or shape of the hollow body organ, the expandable  
5 segment being sized and configured to expand in response to receipt of fluid.

44. A method of reducing volume within a hollow body organ comprising the step of using a prosthesis as defined in claim 43.

10 45. A method of reducing volume within a heart chamber comprising the step of using a prosthesis as defined in claim 43.